REMARKS

The applicant respectfully requests reconsideration in view of the following remarks. The applicant has incorporated claim 8 and some of the groups of Ar from claim 9 into claim 1.

Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claims 1, 4-9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/45466 A1 (Kamatani et al.), US 2003/0059646 A1 is relied upon as the English language translation. Claims 1, 4-10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2001/0019782 A1 (Igarashi et al.). Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani.

Objection to Claim 7

Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. The applicant has cancelled claim 7. For the above reasons, this rejection should be withdrawn.

Rejection Over Kamatani

Claims 1, 4-9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamatani, US 2003/0059646 A1 is relied upon as the English language translation. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani. At page 7 of the Office Action, the Examiner comments on the applicant's previous response and declaration. The Declaration antedates US 2003/0059646 issued to Kamatani but the Examiner is correct in paragraph no. 11 that the declaration does not antedate the PCT counterpart of Kamatani.

Kamatani discloses a tris(phenylpyridyl)iridium complex wherein the phenyl groups of the ligand are substituted by carbazole groups. At page 3 of the Office Action mailed June 8,

2009, the Examiner has referred to compound 36, in particular teaching Ar as a carbazole group. The applicant has deleted the possibility that Ar is carbazole from the claims. It is noted that claims 1 and 9 include that Ar can be an N-alkylcarbazole. However, the applicant does not believe that Kamatani teaches that Ar can be an N-alkylcarbazole. The applicant does not believe that Kamatani discloses or teaches the other definitions of the applicant's claimed Ar. For the above reasons, these rejections should be withdrawn.

Rejection Over Igarashi

Claims 1, 4-10, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi. The Examiner stated at page 8 of the office action mailed June 8, 2009, that ligands and complexes according to Igarashi can be made by known synthesis methods according to paragraph [0086] of Igarashi. This paragraph cites four scientific publications. However, the applicant has informed the undersigned that each of these publications relates only to the complexation reaction (ortho-metalation reaction of phenylpyridine and simple phenylpyridine derivatives to iridium). None of the publications discloses the reaction of aryl-substituted phenylpyridine derivatives with iridium and in particular, none of the publications discloses the synthesis of aryl-substituted phenylpyridine ligands. Therefore, even the synthesis of compounds 1-42 and 1-45 depicted in Igarashi it is not clear to the person skilled in the art. This is even truer for the complexes according to the present invention where the phenyl group is bound in the **position para** to the iridium as the person of ordinary skill in the art is not aware of how to synthesize the corresponding aryl-substituted free ligand. Therefore, the person of ordinary skill in the art and having knowledge of the Igarashi publication, would still not know how to make the complexes according to present claim 1 as the synthetic methods taught by Igarashi are not capable of making the complexes substituted with aryl groups in the position

para to the iridium as claimed.

Furthermore, the complexes according to the present invention having an aryl substituent in the position para to the iridium have different properties compared to compounds having the aryl substituent in the position meta to the iridium as disclosed by Igarashi.

Igarashi disclose iridium complexes with three phenylpyridine ligands wherein the phenyl groups of the ligand are further substituted with phenyl groups meta to the position of the coordination to the iridium, i.e. in positions 4 and 6 (compounds 1-42 and 1-45) and not in the para position as is claimed by the applicant.

The metal complexes as claimed in pending claim 1 differ from the metal complexes disclosed by Igarashi in that the aryl substituent is bound para to the position of the coordination to the metal, i.e. in position 6. This has the effect that the emission maximum of these compounds is blue-shifted by about 26 nm compared to compounds where the phenyl group is bound meta to the position of the coordination of the iridium. To show this technical effect, the applicant has enclosed the photoluminescence spectrum of the compound according to Example 7 of the present Invention, which has an emission maximum of 512 nm, thus leading to pure green emission. Also the use of these compounds in an OLED still leads to pure green emission as can be seen from Table 2 of the present invention.

In contrast, the applicant has informed the undersigned that the compounds having a phenyl group in the position meta to the coordination to the iridium have an emission maximum around 537 nm, thus leading to yellow-green emission, but not to green emission. Enclosed is a publication by F. J. Coughlin et al. as a proof for the emission maximum of 537. The article states that the color is from blue to green but the applicant has informed the undersigned that a good saturated green emission for application in displays will have a photoluminescence maximum between 510 and 520 nm (such as the inventive compound, which has an emission

maximum of 512 nm), but a saturated green emission cannot be achieved, if the emission maximum is 537 nm as in the complex disclosed by Coughlin et al. Even though this publication has been published only after the filing date of the present invention, this document is cited as proof of the physical properties of the compounds which are disclosed by Igarashi. Compound 6 on page 2044 is such a phenyl substituted derivative. The publication gives an emission maximum of 537 nm for this compound.

The technical problem underlying the present invention is therefore to find metal complexes with good emissive properties, which show a good solubility in organic solvents and which are suitable as green emitters. This problem is solved by the complexes according to claim 1 of the present invention.

Igarashi would not lead the person skilled in the art to the present invention as the complexes disclosed by Igarashi do not show green emission, but rather show yellow-orange emission. It is not obvious for the person of ordinary skill in the art that metal complexes being substituted with an aryl or heteroaryl group in the position para to the metal would have clearly different emission colors than the metal complexes disclosed by Igarashi and in particular, there was not possibility for the person skilled in the art to predict that the compounds according to the present invention might be a suitable solution to his technical problem and might show suitable color coordinates. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

A one month extension has been paid. Applicant believes no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 14113-00044-US from which the undersigned is authorized to draw.

Dated: September 9, 2009

Respectfully submitted,

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ENCLOSURE: (1) publication by F. J. Coughlin et al.

(2) photoluminescence spectrum of the compound according to Example 7 of the present Invention